PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-315792

(43)Date of publication of application : 29.11.1996

(51)Int.Cl. H01M 2/08

(21)Application number : 07-123349

(22)Date of filing : 23.05.1995

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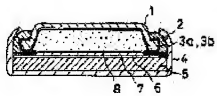
(54) BUTTON TYPE ALKALINE BATTERY

(57)Abstract:

PURPOSE: To form a sealing part which is excellent in leakage liquid resistance, and prevent sealing workability from being deteriorated by its leakage liquid resistant processing by improving the sealing part of a button type alkaline battery.

CONSTITUTION: In a button type alkaline battery where an insulating gasket 2 is arranged in a sealing part, this insulating gasket 2 is characterized in that a sealing agent 3a is applied to the whole surface and a slipping gent 3b is applied to the surface of this sealing agent. Since the sealing agent is applied to the whole surface of the insulating gasket, excellent leakage liquid resistance is held, and the deterioration of workability caused by this sealing agent is also prevented by applying the slipping agent.



* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application]This invention relates to the button type alkaline cell which improved the obturation part.
[0002]
[Description of the Prior Art]The obturation part of the conventional button type alkaline cell was formed as follows. The insulating gasket which consists of a synthetic resin or a synthetic rubber is fitted into the metal obturation board which served as the negative pole terminal, and then this is fitted into the positive electrode case which served as the positive pole terminal, and the opening of a positive electrode case is obturated in total to inboard. In order to prevent a liquid spill of a cell in that case, as a sealing compound Polyamide system resin, Asphalt, chlorosulphonated polyethylene, epoxy resins, or these mixtures were applied all over the insulating gasket, or it was being carried out whether it would pour only into the part which contacts [sealing compounds / these] the metal obturation board as which it served in a negative pole terminal.
[0003]
[Problem(s) to be Solved by the Invention]In the method of applying a sealing compound all over an insulating gasket among the above-mentioned conventional obturation methods, although the liquid spill-proof characteristic becomes good, the work which insulating gaskets adhere each other by the sealing compound applied to the whole surface, therefore unfolds this is needed as a post process. In the method of on the other hand pouring a sealing compound only into the part which contacts the metal obturation board which served as the negative pole terminal, the problem of the above work is inferior to the liquid spill-proof characteristic, although it does not generate. Therefore, the obturation method of satisfying both workability and the liquid spill-proof characteristic is desired. It aims at providing the

button type alkaline cell which this invention coped with the above-mentioned problem, was made at, and was excellent in the liquid spill-proof characteristic, and was excellent also in workability.

[0004]

[Means for Solving the Problem]A button type alkaline cell of this invention attained the above-mentioned purpose by applying a sealing compound all over an insulating gasket, and applying a sliding agent to the surface further. Namely, in a button type alkaline cell which, as for this invention, an insulating gasket intervenes between an end of a metal obturation board which served as a negative pole terminal, and an end of a positive electrode case which served both as a positive pole terminal, and forms an obturation part, A sealing compound is applied all over an insulating gasket, and a sliding agent is further applied to the surface of this sealing compound.

[0005]In the above, as an insulating gasket, as long as it is usually used as an insulating gasket, any may be sufficient as a synthetic resin, a synthetic rubber, etc. As a sealing compound, if polyamide system resin, asphalt, chlorosulphonated polyethylene, epoxy resins, or these mixtures have a seal function, they can be used. As a sliding agent, carbon black, graphite, silica, talc, mica, or those mixtures are preferred.

[0006]

[Function]Since the sealing compound is applied all over the insulating gasket, its liquid spill-proof characteristic is good, and since the button type alkaline cell of this invention can prevent adhesion of insulating gaskets by the sliding agent moreover applied on it, its workability at the time of obturation is also good. Therefore, both the liquid spill-proof characteristic and workability can be raised.

[0007]

[Example]The example of this invention is described with reference to drawings. Drawing 1 is a sectional view showing one example of the button type alkaline cell (a silver oxide cell SR621SW type, 6.8 mm in diameter, and 2.15 mm in height) of this invention. Drawing 2 is an enlarged drawing of the insulating gasket used with this button type alkaline cell. the obturation board which served as the negative pole terminal 1 in drawing 1 and drawing 2, the gasket which consists of Nylon 2, and 3a -- as for a sealing compound and 3b, as for positive electrode mixture and 6, a sliding agent and 4 are [a liquid holding material and 8] negative-electrode active substances a separator and 7 a positive electrode case and 5.

[0008]As shown in drawing 2, as for the insulating gasket of the button type alkaline cell of this invention, the sealing compound 3a is applied all over the, and the sliding agent 3b is further applied on it. In this example, the following compounds were used as the sealing compound 3a, and this was applied all over the insulating gasket using the fluid bed spreading machine of a spray type.

Sealing compound: Fatty acid polyamide resin [-- 40wt%.] -- 20wt%, isopropyl alcohol -- 40wt%, toluene

[0009]After applying the above-mentioned sealing compound, the sliding agent 3b of the following combination was applied.

Sliding agent: Talc [-- 50wt%.] -- 5wt%, isopropyl alcohol -- 45wt%, ethyl alcohol

[0010]Since talc sediments easily to a spray container in applying a sliding agent, it applies stirring. Coverage was prepared so that talc might be 0.5wt% to the solid content of fatty acid polyamide resin in a sealing compound.

[0011]Next, the thing which applies the above-mentioned sealing compound all over an insulating gasket as the comparative example 1, and does not apply a sliding agent for comparison with this invention, What poured the above-mentioned sealing compound into the part which contacts the metal obturation board 1 of an insulating gasket with an injector was used as the comparative example 2, respectively, and the cell of the same mold as the example cell of this invention was created.

[0012]After [the example cell of this invention, and the cell of the comparative examples 1 and 2] storing 50 pieces under the environment of the temperature of 45 **, and 93% of humidity on the 120th on the 80th on the 40th, respectively, those liquid spill occurrences were counted under 20 times as many microscopes. A result is shown in Table 1.

[0013]

[Table 1]

貯蔵日数 / 電池	40日	80日	120日
実施例	0	0	7
比較例1	0	0	8
比較例2	0	2	23

(単位：個)

[0014]About workability, there was no insulating gasket of an example and the comparative example 2 with the shoes of packings, and although it unfolded and the process was unnecessary, in the case of the comparative example 1, it had to work by occurring and unfolding with shoes.

[0015]Although fatty acid polyamide resin was used as a sealing compound in the above-mentioned example, the same effect is acquired, even if this invention is not limited to this and uses asphalt, chlorosulfonated polyethylene, epoxy resins, or these mixtures for others. Silica, mica, carbon black, graphite, etc. can be similarly used as a sliding agent in addition to the above-mentioned talc.

[0016]

[Effect of the Invention]As explained above, by having improved the obturation portion, the button type alkaline cell of this invention is excellent in the liquid spill-proof characteristic, and

has the effect that the workability in the case of obturation is also good.

[Translation done.]